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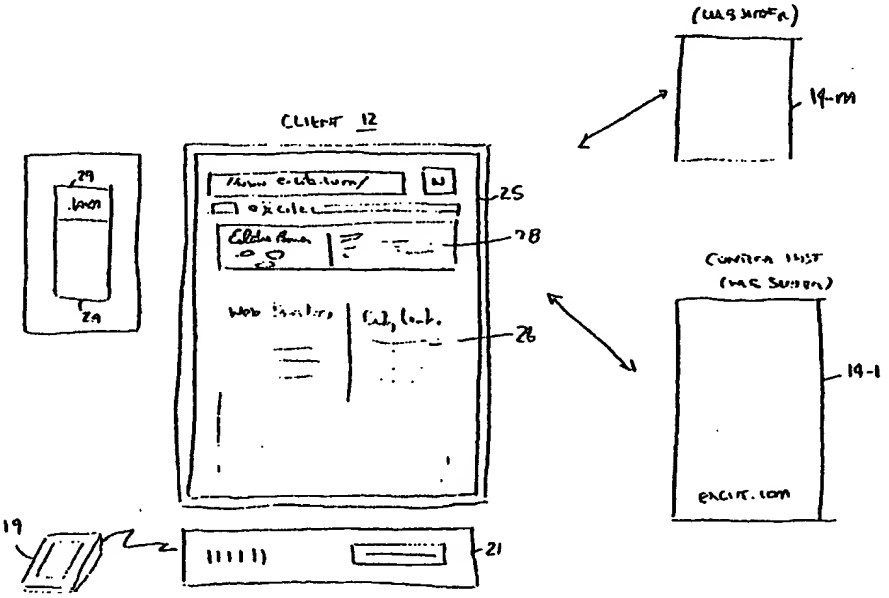

(57) Abstract

A technique for displaying banner advertisements within the context of an electronic document browsing environment such as the World Wide Web. The technique is implemented in an applet program embedded within a Web page file that presents an advertisement wherein the size changes from a smaller size to a larger size, for example, when the user expresses an interest in the advertisement. By dynamically expanding and changing the size of the advertisement based upon the user's interaction with the advertisement, advertising is more effective without becoming intrusive to consumers and publishers expected arrangement of the underlying Web pages.

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CHANGING ADVERTISEMENT SIZE IN RESPONSE TO USER INTERACTIONS

BACKGROUND OF THE INVENTION

Network computing environments are becoming a very popular mechanism for distributing information of various types among a wide audience at minimum cost. One particularly well known example of such an environment is the World Wide Web in which an extensive network of many different types of computers provides shared access to information.

The Web is being used more and more in the nature of television media to provide access to multimedia information. This includes the widespread use of advertising. Indeed, Web sites that host search engines and other highly popular content are viewed so often that their operators can provide this service free of charge to users, supporting themselves typically by selling advertising space. This model has now carried itself over to the more traditional information content providers such as newspapers and news services. For example, the television networks, Cable News Network (CNN), and major daily newspapers, such as *U.S.A. Today*, provide highly detailed and sophisticated information at their Web sites for free. These sites are typically supported, at least in part, by advertising displayed.

Advertisers now increasingly seek ways to entice Web users who are casually browsing to ultimately engage them in an electronic commerce transaction, without actually requiring them to perform other

processes which are perceived as being cumbersome. For example, it is now quite common for most Web pages to contain Web page "banner ads" that contain attention-grabbing multimedia effects. Such effects may not only include presenting elaborate sequences and images, but also the presentation of animated objects and audio sounds.

However, for sophisticated users of the Web, advertising banners are now considered to be so common as to be a nuisance. Even the most naive Web users learn quickly that by clicking on the boxed messages, they will be banished to another page in which they have no interest. Advertisers in turn lament the ever declining response rates that banner ads are capable of producing. Unfortunately, a standard banner ad provides only a limited space such as a predefined pixel area of 468 x 60 pixels near the top of the page and, therefore, advertisers creativity is limited.

SUMMARY OF THE INVENTION

Statement of the Problem

It is therefore desirable to not only allow the displaying of an advertising impression within the context of a Web page, but also to allow an advertiser greater freedom in enticing a user to complete a transaction. This would avoid the undesirable effect of having the user be transported to a different site within the context of the Web browser.

The standard Web page banner ad provides an area of the page typically thought to be suitable for providing a short teaser message and a few buttons to allow the user to click through to another Web site.

However, the area available is typically not considered to be large enough to accomplish other tasks which might be of interest. For example, it is sometimes quite difficult to provide detailed animation effects and/or to allow the user to complete an order blank form within the confined space of a banner ad.

Brief Description of the Invention

The present invention is used in a distributed computing environment for presenting multimedia information in which an advertisement is presented such as a Web browser environment. According to the invention, the size of the area on the screen within the context of a Web browser window devoted to the advertisement is dynamically changed in accordance with user interactions with the Web page.

For example, the size of the advertisement may dynamically expand based upon the user expressing an interest in the advertisement. The larger advertisement may contain a more detailed picture of the featured product information, an order blank form, or otherwise present a more effective advertisement within the larger area.

User interest in the advertisement can be determined by detecting that the user is interacting with it in some way. This may be triggered by clicks of the mouse on the advertisement, or simply by the user moving the mouse over or near or around the advertisement for a predetermined period of time. In addition, once the user indicates they are no longer interested in the advertisement, such as by clicking on

or interacting with another area of the Web page, the advertisement reverts to the prior size.

In the preferred embodiment, the advertisement size is changed in a manner which does not alter the underlying Web page content. For example, the larger Web page advertisement area is temporarily overlaid upon the original Web page information and/or cause the original Web page information to push the original content down lower on the page, depending upon the effect desired by the author of the Web page.

Unlike other Web page advertising techniques, the advertising information remains entirely within the context of the same window which is displaying the Web page. Therefore, auxiliary pop-up windows and the like, which are sometimes considered to be annoying to some users, need not be used.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of a system for displaying a banner advertisement within the context of a Web browser.

Figs. 2A through 2C and 3A through 3C illustrate a sequence of display stage which a banner ad applet enters into to implement a banner advertisement according to the invention.

Figs. 4A and 4B are flow charts of the operations performed by an applet program to implement the banner ad.

DETAILED DESCRIPTION OF THE INVENTION

Fig. 1 is a block diagram of a distributed computing environment 10 in which the invention may be

implemented. The environment 10 includes a number of computers 12, 14-1 ... 14-m, 16, 18-1 ... 18-n interconnected by communication media 20. The communication media 20, and in general the distributed computing environment 10, may make use of any number of computer networking techniques such as local and wide area networks, routers, bridges, gateways, modems, and/or other data communication devices to form what has become known as an "intranet" or "internet." In the preferred embodiment, the present invention is employed in what has become known as "the Internet," which is an international computer network linking many millions of computers.

Typically, the computers 12, 14, 16 and 18 are personal computers, mini-computers, or the like. Certain of the computers in the distributed computing environment 10 act as content hosts 14-1 ... 14-m, and are used primarily to store and supply information. One type of content host 14-1 ... 14-m which is in widespread use on the Internet is known as a Web server that provides access to information stored in a form known as a Web page.

Other computers in the distributed computing environment 10, known as clients 12, are typically controlled by one user. The client computer 12 includes, as for any computer, a processor 21, a memory or other storage device 22, and a display 23. The client computer 12 allows a user to view Web pages by "downloading" replica Web page files to the client 12 from the content hosts 14-1 ... 14-m via the communication media 20. The downloading function is specifically performed by a browser program 24, which

is preferably a browser program such as Netscape Navigator™ or Microsoft Internet Explorer™, that permits the use of interpretive languages, such as Java™ that may execute programs that are included in the Web page file. (Navigator™ is a trademark of Netscape Communications Corp. Of Mountain View, California; Internet Explorer™ is a trademark of Microsoft Corporation of Redmond, Washington; and Java™ is a trademark of Sun Microsystems Corporation of Sunnyvale, California.)

The browser program 24 thus enables the user to recreate a view of the Web page, such as in a window 25 on the display 23. It should be understood that other windows may relate to other programs that the user is presently running on the processor 21. In order to display the Web page, the browser program 24 typically downloads the Web page file to its local memory 22, including various portions such a Hypertext Markup Language (HTML) description of the page containing instructions for the browser program 24 to format the Web page information in content areas 26, 28 within the window 25. In the illustrated example, content area 26 contains news reports requested by the user.

The display of the Web page replica in the window 25 may include various regions such as an input area 27 where the user enters addresses of Web pages that he or she desires to view, menus for other actions associated with operating the browser program itself, as well as areas for displaying the visual content of Web pages.

The downloaded Web page replica 24 also includes Java byte code 29 that includes instructions to be run

while the client computer 12 is displaying the Web page.

Of interest to the description of the present invention is a Web page that contains at least one area 28 which contains an advertisement. The advertisement 28 is typically used as an enticement for the user to ultimately enter into a commercial transaction specifically associated with the originator or author of the advertisement.

With the present invention, the advertisement 28 is provided to the client 12 as part of a requested Web page. The requested Web page and typically the advertisement 28 are stored at one of the content hosts 14-1. For example, the content host 14-1 may provide the Web site located at http://www.excite.com/. There are thousands, if not now millions, of such content hosts on the World Wide Web. For example, another content host 14-m provides the Web site at http://www.att.com/. What is important is that the operator of the content host 14-1 has sold advertising space on its Web pages to various merchants.

In the illustrated example, CNN has contracted to advertise an electronic ordering service for Eddie Bauer™ over the World Wide Web. (Eddie Bauer™ is a trademark of Eddie Bauer, Inc. of Redmond, Washington.) Therefore, when the user of the client 12 wishes to view the present day headlines, a non-secure connection 32 is opened between the content host 14-1 and the client 12 in a known manner. The connection, for example, is opened using the Transmission Control Protocol/Internet Protocol (TCP/IP). Thus, when the user enters the Uniform Resource Locator (URL) of

http://www.excite.com/ in the input area 27, not only does the requested headline information appear in the content area 26, but also an advertisement for Eddie Bauer appears in the area 28.

This so-called banner ad may be implemented as a Java program 29 to accomplish several tasks in accordance with the invention. First of all, the banner ad enters a state in which several moving elements are scrolled through various views in order to gain the attention of the user. It is common for the banner ad to be placed in a somewhat standardized pixel area of 468 x 60 pixels near the top of the page. Tools such as Graphical Interchange Format (GIF) files or other multimedia tools such as Macromedia Director™ allows one to incorporate sight, sound, and motion into banner ads in order to attract the attention of Web page viewers.

Figs. 2A through 2C show several different examples of how the size of the banner ad area 28 can be changed in a response to user interactions. In particular, the first view of Fig. 2A is the view typically presented to the user with the normal sized Web banner 28. The content areas on the page 26 are also positioned as originally downloaded. Upon the user interacting on the next area 30 within the Web banner advertisement, the view of Fig. 2B is presented. In particular, a banner ad area 28 is now significantly increased in size and overlaps one or more of the content areas 26 on the page. In this instance, the user is being prompted to enter more complete billing information to complete an electronic transaction which

was originally begun within the context of the normal-sized banner ad.

However, in the example shown in Fig. 2C, which is an alternative embodiment, the content areas 26 have been moved down on the page, being displaced by the Web banner advertisement area 28.

The affect is nonetheless the same in that the size of the Web banner ad is changed in response to the user interactions.

Upon completion of the information within the banner advertisement for billing, the ad again reverts to the standard size such as shown in Fig. 2A.

It should be understood that various types of user interactions may trigger a change in the size of the ad area. For example, referring to Fig. 3A, the Web banner area 28 is again shown within the context of the http://www.excite.com Web page. This advertisement is implemented such that if the user simply moves the mouse over the Web banner ad area 28, the page view reverts to the view such as shown in Fig. 3C.

Therefore, the triggering user interactions may include clicking on a portion of the ad 28, moving the mouse near the ad 28, or hovering over the ad for a predetermined time period such as ½ of a second. Such user interactions may be tracked, for example, as Java script events.

Alternatively, such as shown in Fig. 3B, the applet may be programmed so that the user, for example, must click within the banner advertisement area in order to see the extended Web page advertisement area.

Finally, in connection with the Fig. 3C, is shown the enlarged Web page banner ad area 28 with the

indication that by clicking within the area, the banner ad will be reduced to its original size.

It should also be understood that in addition to providing a larger area to complete electronic transaction, this same interaction with the Web ad may, for example, prompt the user with more enticements, such as a larger area and more detailed graphics, such as that shown in Fig. 4A in the case of presenting a more detailed picture of the view of the apparel being selected and/or in the case of Fig. 4B, transforming to that of Fig. 4C in which a more detailed description of a wine selection being made is available in the enlarged banner advertisement window.

While this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

CLAIMS

What is claimed is:

1. A method for displaying an advertisement within a networked computing environment in which certain server computers store document files and certain other client computers run browser programs which are used to display document page files received from the server computers within a window of a viewing device associated with the client computer, comprising the steps of:

displaying an initial view of the advertisement within an initial advertisement area of the window, the initial advertisement are having a predefined initial area limit;

determining user interest in the advertisement; and

changing the size of the view of the advertisement area so that it is of a second larger advertisement area size which is larger than the initial area limit.

2. A method as in claim 1 wherein user interest in the advertisement is determined by detecting a user interaction with the advertisement.

3. A method as in claim 2 wherein the user interaction is a mouse indicator movement within the initial area limit.

4. A method as in claim 1 wherein the user interaction is a mouse click within the initial area limit.

5. A method as in claim 1 additionally comprising the steps of:

determining that the user is no longer interested in the advertisement; and

reverting the view of the advertisement area to the initial area limit.

6. A method as in claim 5 wherein the step of determining the user is no longer interested in the advertisement comprises the step of:

detecting a user interaction with the page file outside of the advertisement area.

7. A method as in claim 1 wherein the steps of displaying an initial view of the advertisement, and determining user interest in the advertisement, and changing the size of the advertisement are performed by an applet program running within the context of a browser program executing on the client computer.

8. A method as in claim 1 wherein the step of changing the size of the advertisement area to the second larger advertisement area additionally comprises overlaying the second larger advertisement area over other content in the view of the page file.

9. A method as in claim 1 wherein the step of changing the size of the advertisement area to the second larger advertisement area additionally comprises moving other content out of view of the document page file to make room for the second larger advertisement area.

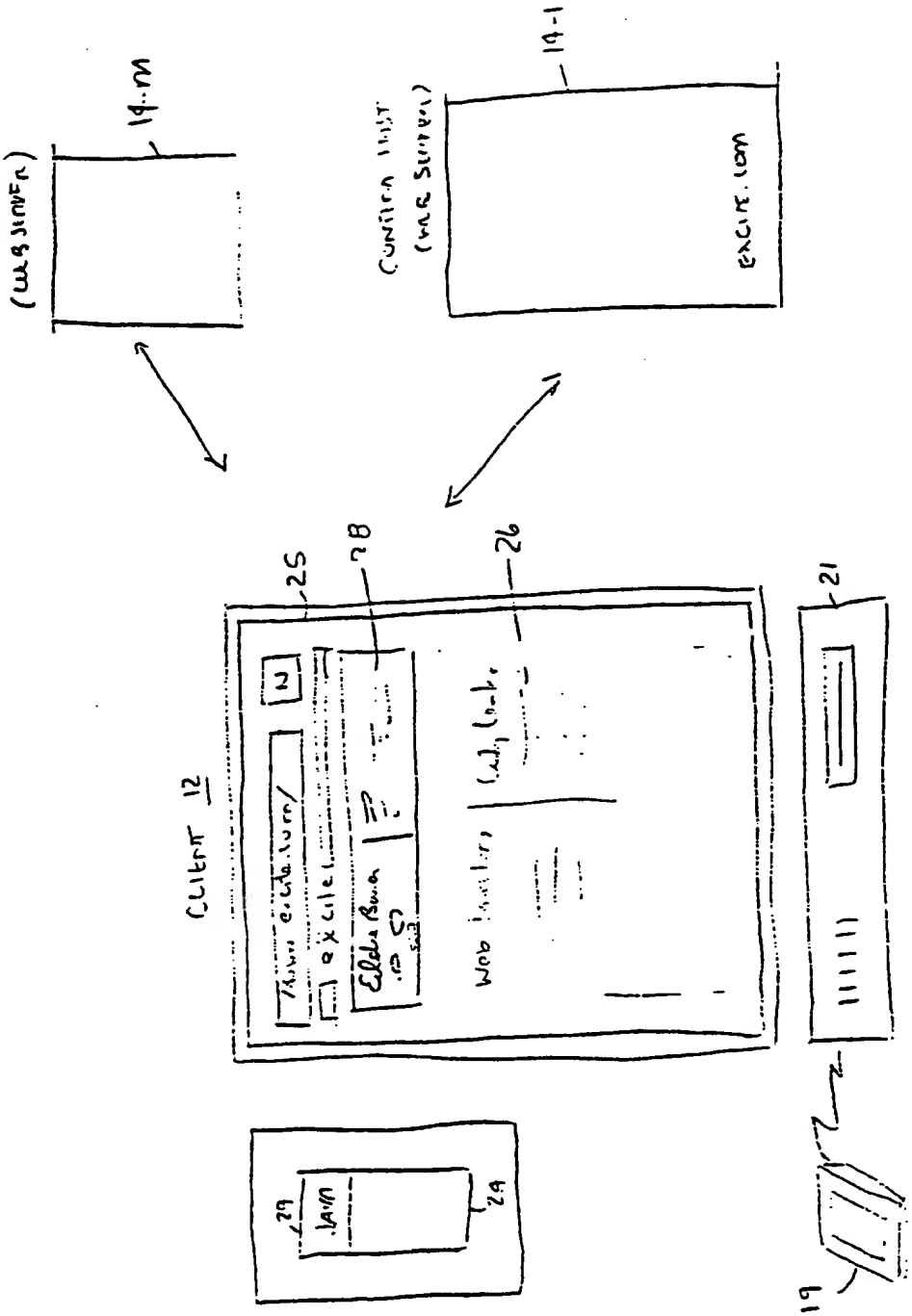

FIG. 1

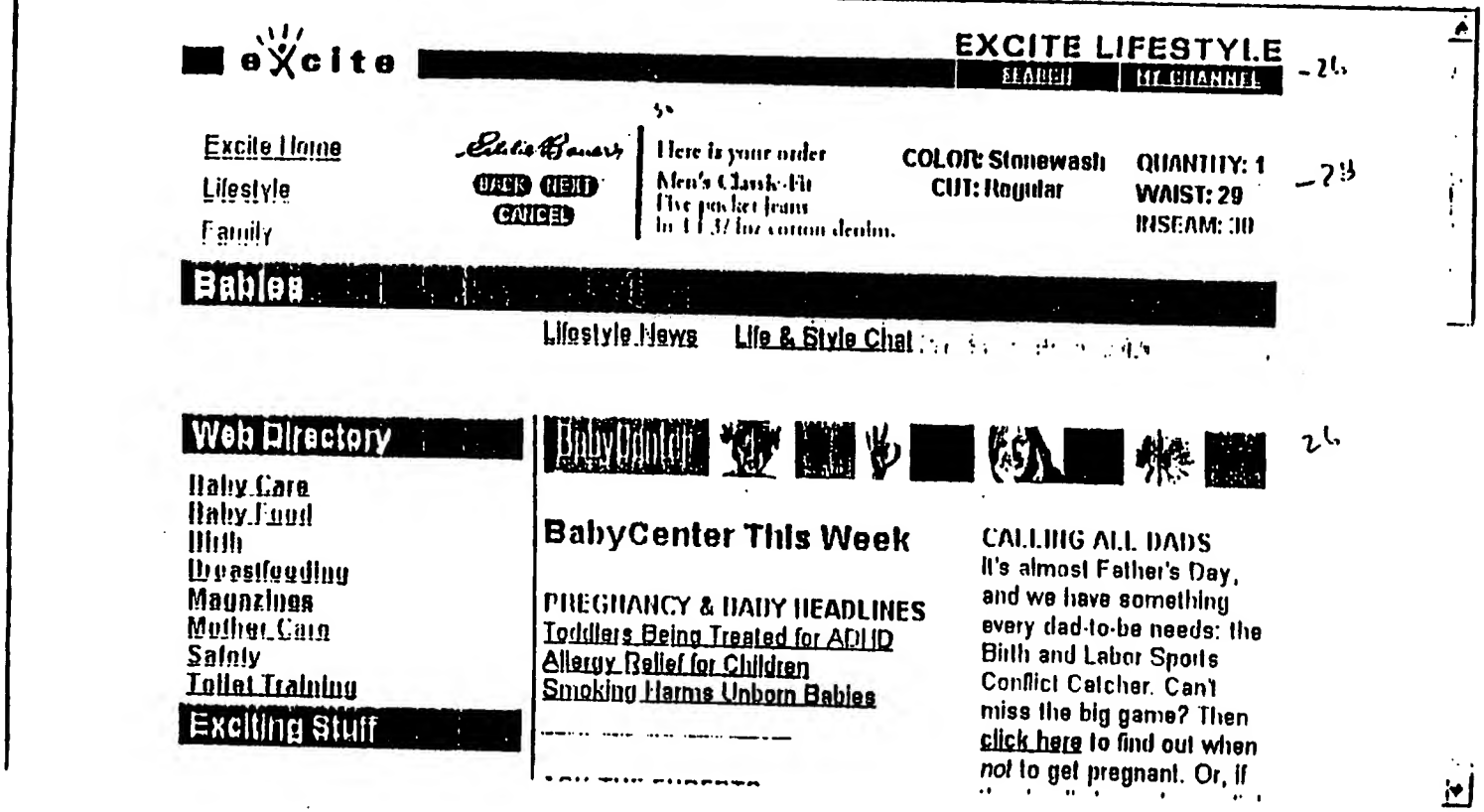

FIG. 2A

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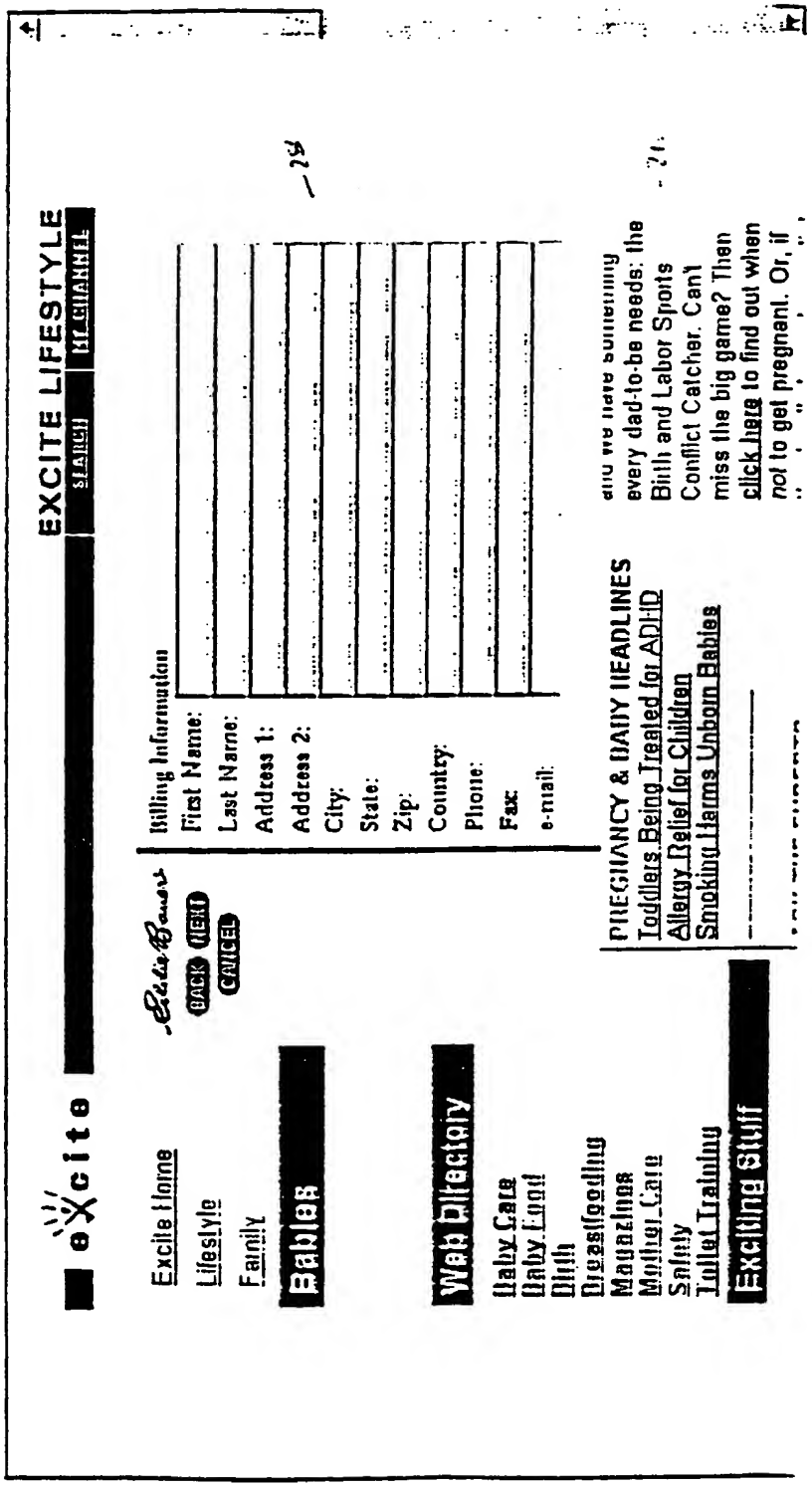

eXcite
EXCITE LIFESTYLE
SEARCH
BOOKMARK
Excite Home
Lifestyle
Family
Babies
Web Directory
Baby Care
Baby Food
Birth
Diapers/Bedding
Magazines
Mother Care
Safety
Toilet Training
Exciting Stuff
BACK
NEXT
CANCEL
Billing Information
First Name:
Last Name:
Address 1:
Address 2:
City:
State:
Zip:
Country:
Phone:
Fax:
e-mail:
PREGNANCY & BABY HEADLINES
Toddlers Being Treated for ADHD
Allergy Relief for Children
Smoking Harms Unborn Babies
every dad-to-be needs: the
Birth and Labor Sports
Conflict Catcher. Can't
miss the big game? Then
click here to find out when
not to get pregnant. Or, if

FIG. 23

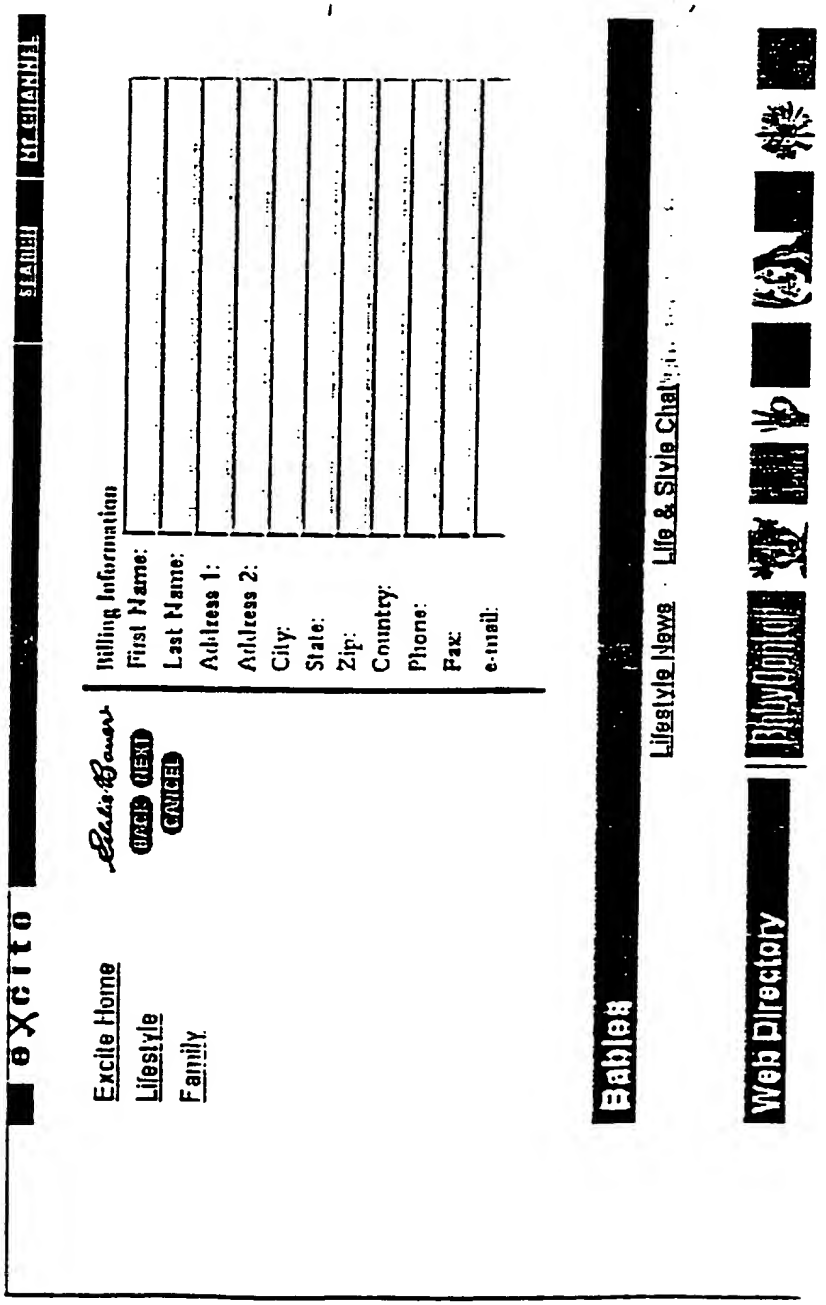

excite
Excite Home
Lifestyle
Family
Billing Information
First Name:
Last Name:
Address 1:
Address 2:
City:
State:
Zip:
Country:
Phone:
Fax:
e-mail:
Babies
Lifestyle News · Life & Style Chat
Web Directory

FIG. 2C

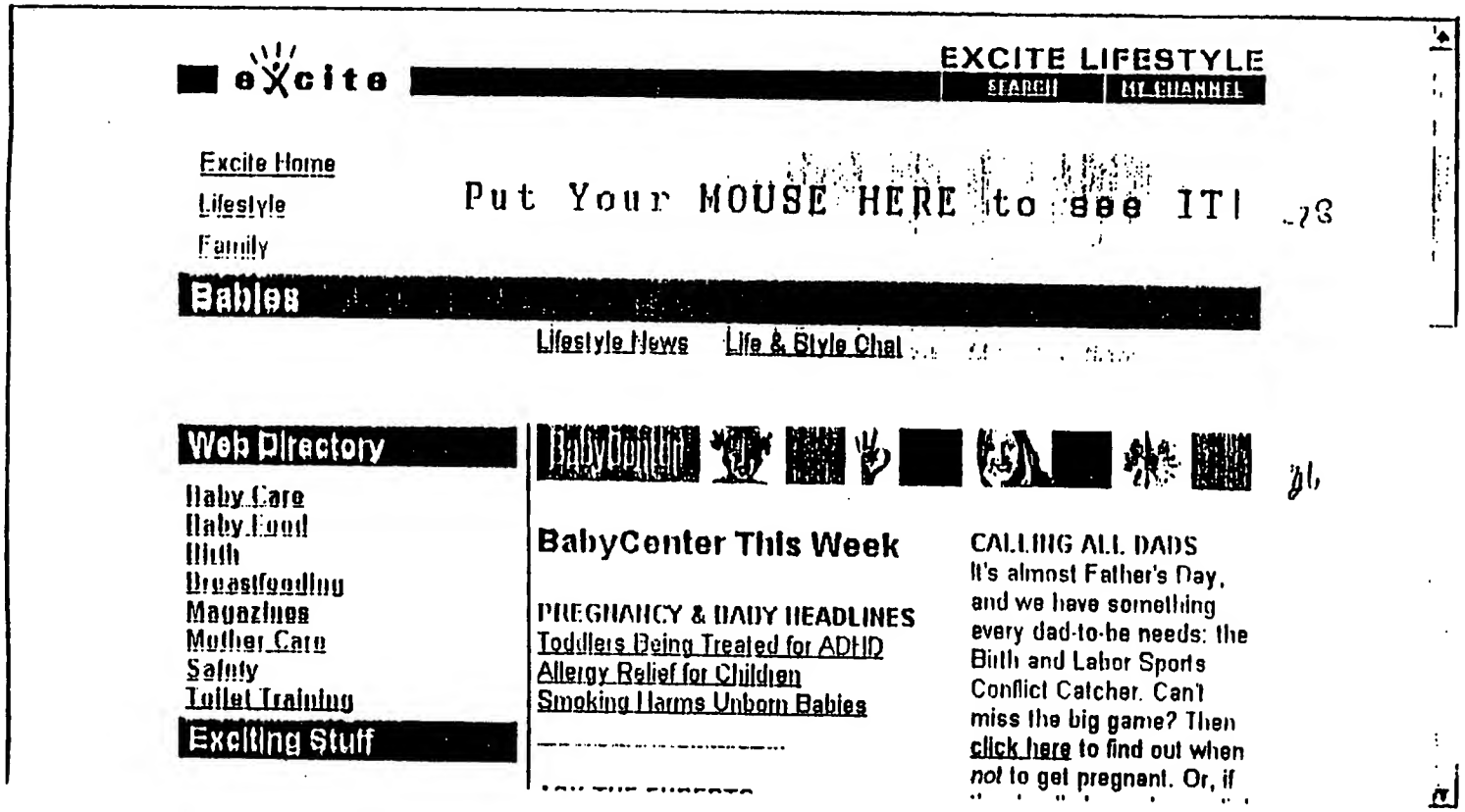

excite
EXCITE LIFESTYLE
SEARCH
MY CHANNEL
Excite Home
Lifestyle
Family
Babies
Put Your MOUSE HERE to see IT!
Lifestyle News
Life & Style Chat
Web Directory
Baby Care
Baby Food
Birth
Breastfeeding
Magazines
Mother Care
Safety
Toilet Training
Exciting Stuff
BabyCenter This Week
PREGNANCY & BABY HEADLINES
Toddlers Being Treated for ADHD
Allergy Relief for Children
Smoking Harms Unborn Babies
CALLING ALL DADS
It's almost Father's Day, and we have something every dad-to-be needs: the Birth and Labor Sports Conflict Catcher. Can't miss the big game? Then click here to find out when not to get pregnant. Or, if

Fig. 3A

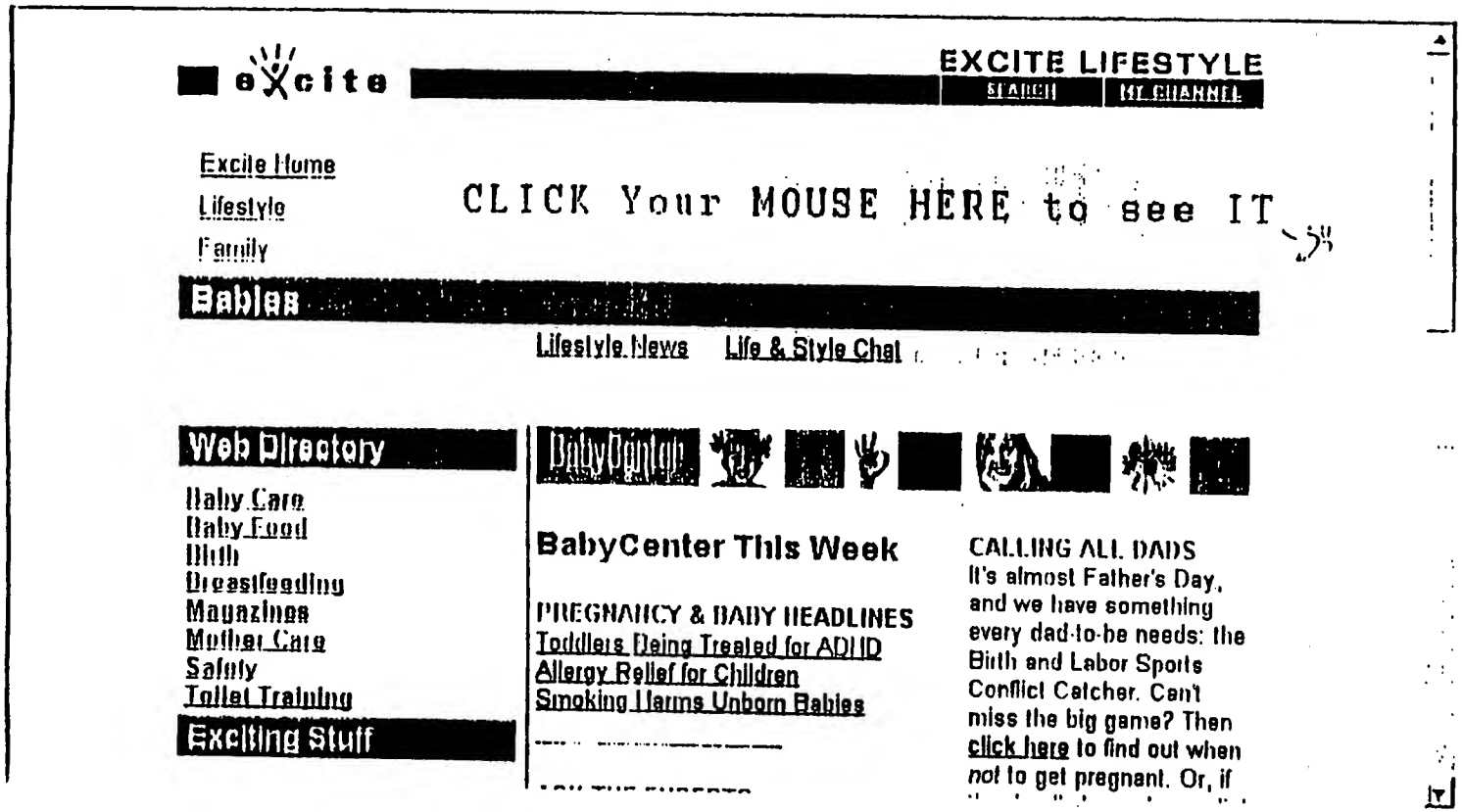

eXcite
EXCITE LIFESTYLE
SEARCH
MY CHANNEL
Excite Home
Lifestyle
Family
CLICK Your MOUSE HERE to see IT
Babies
Lifestyle News
Life & Style Chat
Web Directory
Baby Care
Baby Food
Birth
Breastfeeding
Magazines
Mother Care
Safety
Toilet Training
Exciting Stuff
BabyCenter
BabyCenter This Week
PREGNANCY & BABY HEADLINES
Toddlers Being Treated for ADHD
Allergy Relief for Children
Smoking Harms Unborn Babies
CALLING ALL DADS
It's almost Father's Day, and we have something every dad-to-be needs: the Birth and Labor Sports Conflict Catcher. Can't miss the big game? Then click here to find out when not to get pregnant. Or, if

Fig. 3B

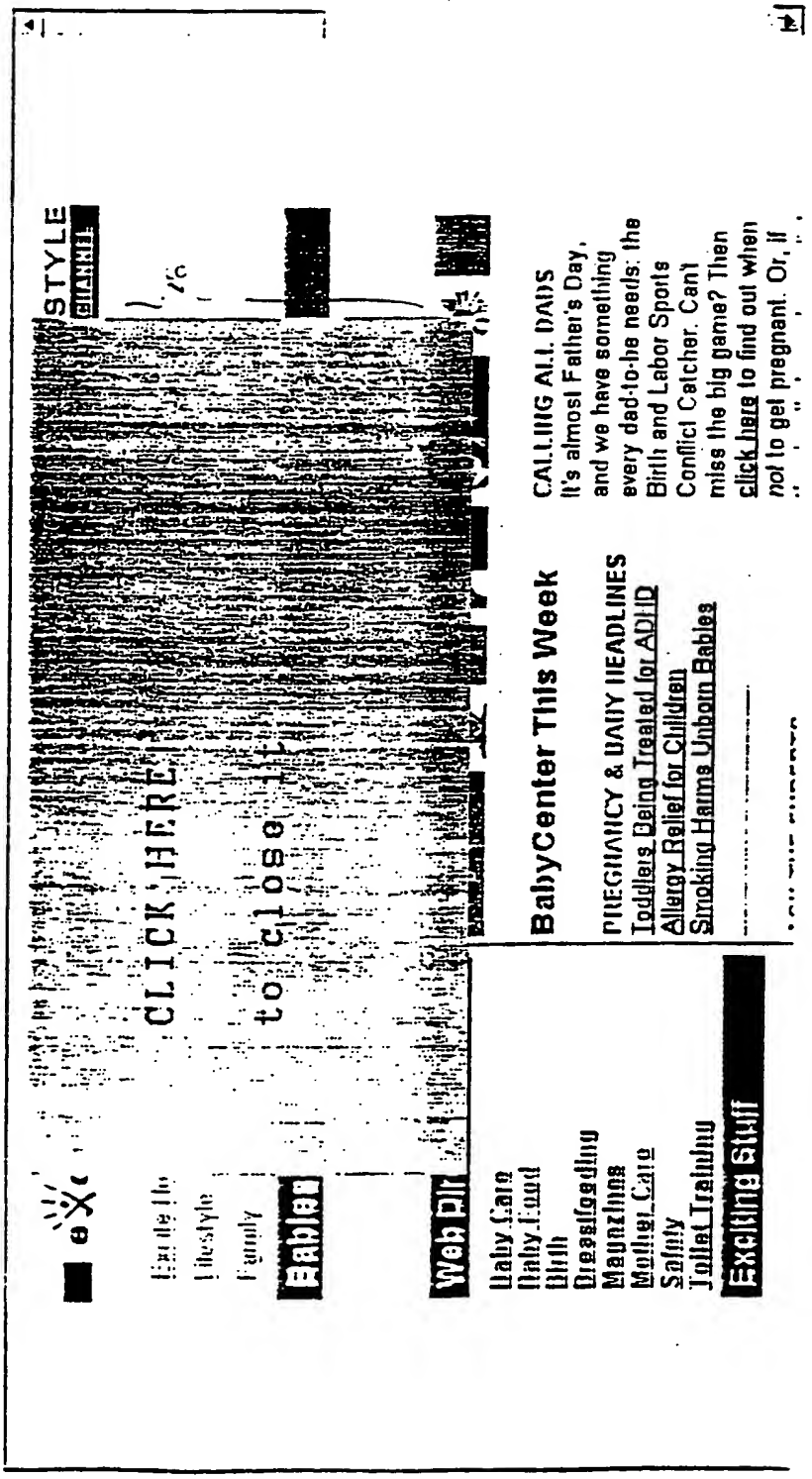

STYLE
CLICK HERE
to close
Baby Care
Baby Food
Birth
Breastfeeding
Magazines
Mother Care
Safety
Toilet Training
Exciting Stuff
BabyCenter This Week
PREGNANCY & DAILY HEADLINES
Toddlers Being Treated for ADHD
Allergy Relief for Children
Smoking Harms Unborn Babies
CALLING ALL DADS
It's almost Father's Day,
and we have something
every dad-to-be needs: the
Birth and Labor Sports
Conflict Catcher. Can't
miss the big game? Then
click here to find out when
not to get pregnant. Or, if

FIG. 3C

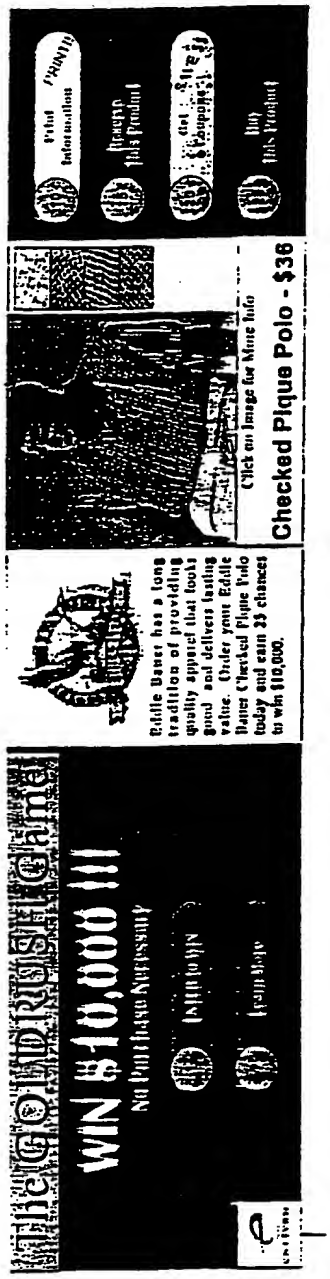
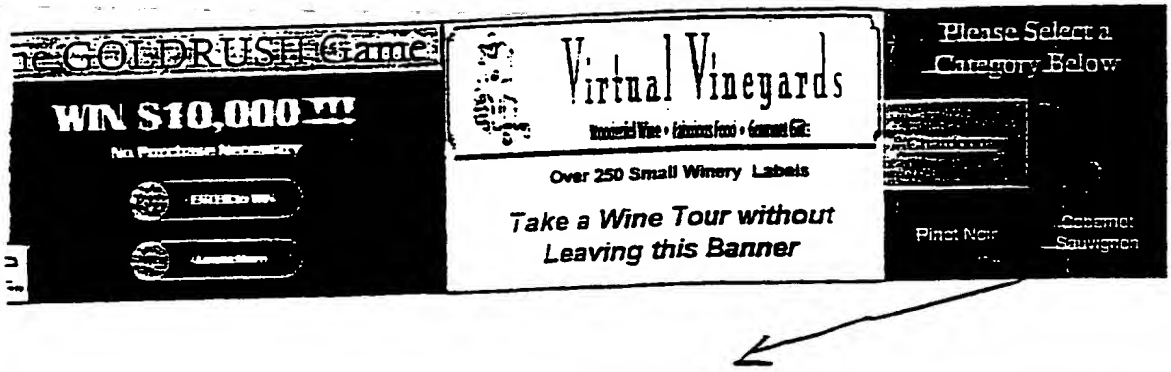


FIG. 4A


COLDRUSH Game
WIN $10,000
Virtual Vineyards
Over 250 Small Winery Labels
Take a Wine Tour without Leaving this Banner
Please Select a Category Below
Pinot Noir
Cabernet Sauvignon

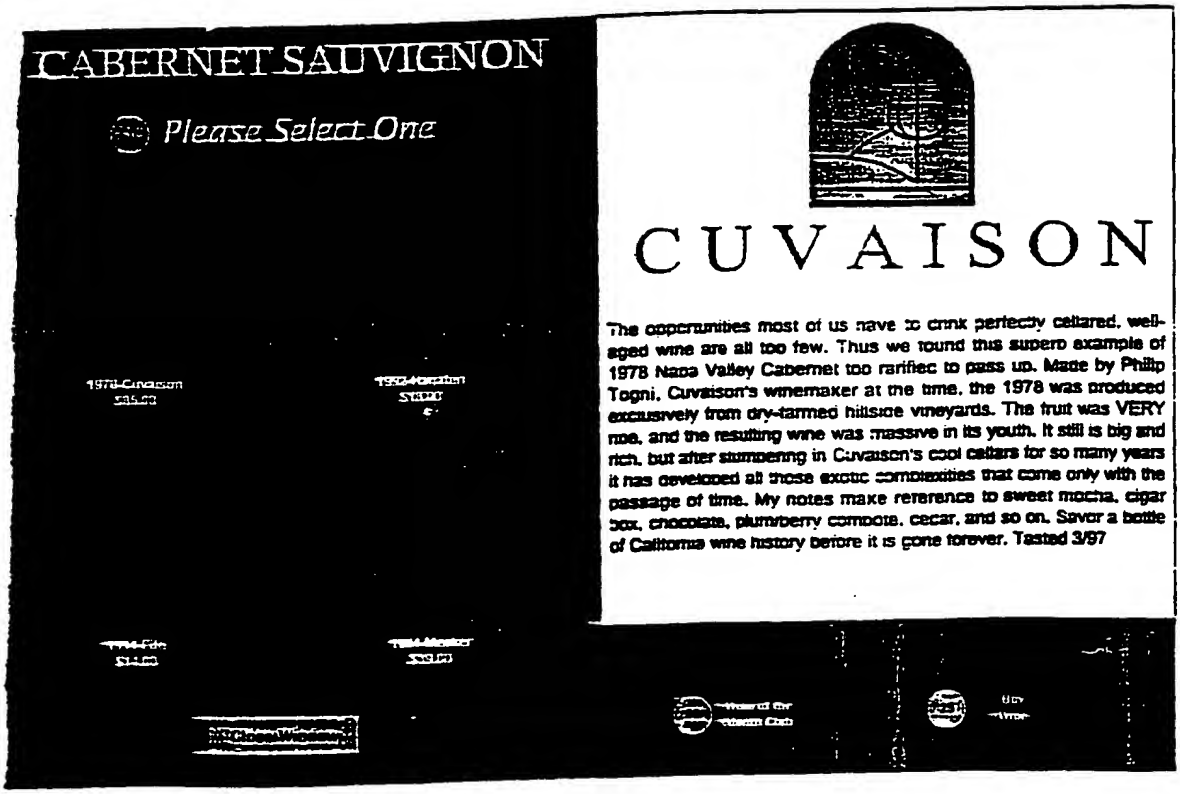

CABERNET SAUVIGNON
Please Select One
CUVAISON
The opportunities most of us have to drink perfectly cellared, well-aged wine are all too few. Thus we found this superb example of 1978 Napa Valley Cabernet too rarified to pass up. Made by Philip Togni, Cuvaison's winemaker at the time, the 1978 was produced exclusively from dry-farmed hillside vineyards. The fruit was VERY ripe, and the resulting wine was massive in its youth. It still is big and rich, but after slumbering in Cuvaison's cool cellars for so many years it has developed all those exotic complexities that come only with the passage of time. My notes make reference to sweet mocha, cigar box, chocolate, plum/berry compote, cedar, and so on. Savor a bottle of California wine history before it is gone forever. Tasted 3/97

Fig. 4E